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LLANFYLLIN
RURAL DISTRICT COUNCIL.

ANNUAL REPORT

OF THE

Medical Officer of Health

FOR THE

MINISTRY OF HEALTH
LIBR

YEAR 1956.

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ANNUAL REPORT

OF THE

Medical Officer of Health

FOR THE

YEAR 1956.

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Clerk: Glyn Jones

Medical Officer of Health:

I. B. MILLAR, M.D., B.Ch., B.A.O., D.P.H.,

Surveyor and Chief Public Health Inspector:

LL. O. EVANS, Cert. S.I.B., Cert. R.S.I., (Meat and other Foods)

Additional Public Health Inspectors

E. GWYNEDD WILLIAMS, Cert. S.I.B., Cert. R.S.I.,
(Meat and other Foods)

D. J. A. HUMPHREYS, Cert. S.I.B., Cert. R.S.I.,
(Meat and other Foods)

To the Chairman and Members of the Llanfyllin Rural District Council.

Mr. Chairman and Councillors,

I have pleasure in submitting my Annual Report for 1956 which is drawn up with due regard to the Welsh Board of Health Circular on this subject, No. 19/56 (Wales).

The Vital Statistics show that the District compares favourably in most respects with the rest of the country. Embodied in this report will be found a separate report giving the results of a survey of cancer in the district during the period 1946-55. Although the total number of cancer cases was not in itself alarming, certain aspects of it seemed to call for further investigation.

The Food and Drugs Regulations 1955, came into operation during the year and our staff was able to implement them without difficulty.

During the year the designation of our Sanitary Inspectors was changed to the more appropriate title of Public Health Inspector. The change implies a protential increase in the range of duties of these members of our staff, but it would be far from true to imply that this was of recent origin. The new designation merely establishes what had been a fact for many years. During the year the vacancy in the staff caused by the resignation of Mr. J. C. Bowen was filled by the appointment of Mr. D. J. A. Humphreys.

I should like to record my thanks to the members of the Council and staff for their very helpful cooperation throughout the year and to the Chief Public Health Inspector for his valuable assistance in the preparation of this report.

I am,

Yours faithfully,

I. B. MILLAR.

Medical Officer of Health.

SECTION "A."

General Statistics of the Area.

Area of the District—163,477 Acres.

Registrar General's estimate of the mid 1956 resident Population —9,870.

Number of Inhabited Houses according to Rate Books—3188

Rateable Value—£85,556

Sum represented by a Penny Rate—£344

Vital Statistics

POPULATION.

The mid 1956 figure of 9870 is 40 fewer than the mid-1955 estimate which in turn was 30 fewer than the mid-1954 estimate.

Live Births

	Male	Female	Total
Legitimate	70	64	134
Illegitimate	1	5	6
Total	71	69	140

Note :- 93 of these births (43 male, 50 female) took place outside the district, presumably in hospitals.

Of the 47 domiciliary births (28 male, 19 female) the allocation to Registration Districts is as follows :

	Male	Female	Total
Llanfair Caereinion	7	4	11
Llanrhaeadr	3	5	8
Llansantffraid	17	9	26
Llansantffraid	1	1 Illegitimate	2
Total	28	19	47

Crude Birth Rate : 14.18 births per 1000 total population.
Corrected Birth Rate (for age and sex): 16.74 per 1000 total poplation (Compared with the provisional figures of 15.6 per 1000 total population for England and Wales and also for Wales alone in 1956 and 15.0 for Montgomeryshire).

Still Births

	Male	Female	Total
Legitimate	2	1	3
Illegitimate	—	—	—

Still Birth Rate: 20.98 per 1000 live and still Births. (Compared with the provisional figures of 23.0 per 1000 live and still Births for England and Wales in 1956, 27.6 for Wales and 17.5 for Montgomeryshire).

Infant Mortality

(a) Neonatal (under 4 weeks of age)

Deaths

	Male	Female	Tota
Legitimate	2	1	3
Illegitimate	—	—	—

Neonatal Mortality: 21.43 per 1000 live births (Compared with a provisional figure of 16.9 for England and Wales in 1956).

(b) Postnatal (4 weeks—1 year)

Deaths

	Male	Female	Total
Legitimate	1	—	1
Illegitimate	—	—	—

Postnatal Mortality: 7.14 per 1000 live births (Compared with a provisional figure of 6.9 per 1000 live births in England and Wales in 1956).

(c) Total Infant Mortality Rate. i.e. (a) plus (b).
28.57 per 1000 live births (Compared with provisional figures of 23.8 per 1000 live births for England and Wales in 1956, 28.7 for Wales and 29.7 for Montgomeryshire).

(d) **Perinatal Mortality**. 34.96 per 1000 total births (Compared with the provisional figure of 36.8 for England and Wales in 1956).

Of the 7 infant deaths and still births, 5 (2 infant deaths and 3 stillbirths) are within the category of perinatal deaths as defined in the Annual Report for 1955.

The causes are listed as follows :

Perinatal	Male	Female	Cause
(a) Infant Deaths	1	—	Prematurity and Asphyxia
	—	1*	Prematurity 32 weeks
(b) Still Births	1	—	Prematurity and Ante-partum haemorrhage
	1	—	Toxaemia, Jaundice, mother Rh negative with one previous infant.
	—	1	Obstetrical abnormality
Other Neonatal	1	—	Congenital disease of heart
Postnatal	1	—	Nephrosis

*This was a non-hospital case.

It will be seen that prematurity is a prevailing cause in 60% of the perinatal cases which is in accord with the generally expected proportion.

All of these cases occured in hospital or were receiving hospital care except one (in the perinatal group) and it is noteworthy that this was an unbooked and unprepared case, thereby emphasizing one of the main features of these cases pointed out in the last report.

Maternal Mortality. Nil. (England and Wales provisional figure : .56 per 1000 total births in 1956).

Deaths

	Male	Female	Total
From all causes	68	45	113

Crude death rate: 11.45 deaths per 1000 total population.
Corrected (for age and sex) death rate: 10.99 per 1000 total population. (Compared with the provisional figures of 11.7 for England and Wales 12.4 for Wales and 12.19 for Montgomeryshire).

DEATHS BY AGE, CAUSE AND SEX DURING THE YEAR

Cause	Sex	Age Groups										Tota	
		under 1 year	1-10	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90+	M	F
Tuberculosis respiratory	M								1			1	
Malignant neoplasm stomach	M						1	1	2			4	
	F								1				1
Malignant neoplasm lung	M							1				1	
Malignant neoplasm uterus	F				1								1
Malignant neoplasm rectum	M								1			1	
	F									1			1
Malignant neoplasm colon	M								1			1	
Malignant neoplasm ovary	F							1					1
Malignant neoplasm bone	M				1							1	
Other malignant neoplasms	M							(1)				1	
Diabetes	M								1			1	
Vascular lesions of nervous system	M							1	7	2	1	11	
	F						1	1	2	1			5
Coronary disease angina	M						2	1	2		1	6	
	F							1	1				2
Hypertension with heart disease	M								1			1′	
	F								1				1
Other heart disease	M							1	4	7*		12	
	F						1	1	7	5			14
Other circulatory disease	M							1	2			3	
	F									2			2
Pneumonia	F								1	1			2
Bronchitis	M						1	1		2		4	
	F							1					1
Ulcer of stomach and duodenum	M								1	1		2	
	F								1				1
Nephritis and nephrosis	M	1										1	
	F					1							1
Hyperplasia of prostate	M								1			1	
Congenital malformations	M	1										1	
Other defined and ill-defined diseases	M	1			1				4	4		10	
	F	1								6	3		10
Motor vehicle accidents	M				1							1	
	F			1									1
All other accidents	M		1		1		1					3	
Suicide	M								1			1	
	F					1							1
Totals	M	3	1		4		5	8	29	16	2	68	
	F	1		1	1	2	2	5	14	16	3		45
Grand Totals		4	1	1	5	2	7	13	43	32	5	113	

*One of these deaths was notified as pneumonia 5 weeks earlier

Note :—The death in brackets may have been due to Neoplasm of Lung

Average age at death (excluding infant deaths)—72.18 years

Males—71.37 ,,

Females—73.38 ,,

Average age at death due to Cancer—64.6 ,,

Average age at death due to Coronary disease—68.1 ,,

Average age at death due to accidents—32 ,,

Average age at death excluding Cancer, Coronary disease and accidents—76.18 ,,

COMPARATIVE STATISTICS

Year	Population (Mid-year Estimate)	Birth Rate (Crude)		Death Rate (Crude)		Stillbirth Rate		Perinatal Mortality Rate		Infant Mortality Rate	
1926-30										58.2	67.9
1931-35 (Average)	11726 (1931 Census)	16.8	15.0	13.86	12.0	54.24	40.96			66.2	61.9
1936	11130	14.1	14.8	13.1	12.1	45.7	39.7	80.0	60.8	53.8	58.7
1937	10990	13.7	14.9	14.6	12.4	74.1	39.0	98.8	60.2	46.6	57.7
1938	10830	15.1	15.1	12.7	11.6	29.7	38.3	59.5	58.6	49.1	52.8
1939	10790	16.4	15.0	14.7	12.1	53.2	38.1	64.8	58.5	89.4	50.6
1940	10930	11.8	14.6	16.7	14.3	85.1	37.2	113.4	57.7	54.3	56.8
1941	11460	14.3	14.2	15.1	12.9	52.3	34.8	92.5	54.7	61.9	60.0
1942		15.3	15.8	15.1	11.6	39.0	33.2	50.0	52.1	46.2	50.6
1943		17.1	16.5	11.9	12.1	31.6	30.1	47.4	47.9	32.6	49.1
1944	10470	17.3	17.6	14.1	11.6	37.4	27.6	63.8	44.5	44.2	45.4
1945	10420	18.52	16.1	13.5	11.4	35.0	27.6	60.0	45.2	41.5	46.0
1936-45 (Average)	10877	15.4	15.5	14.1	12.2	48.3	34.6	73.0	54.0	51.9	52.8
1946	10490	15.3	19.1	13.1	11.5	24.4	27.2	36.6	44.3	37.5	42.9
1947	10360	17.7	20.5	13.6	12.0	31.6	24.1	47.4	40.2	32.6	41.4
1948	10344	18.0	17.9	13.8	10.8	5.3	23.2	37.4	38.5	37.6	33.9
1949	10380	17.6	16.7	13.0	11.7	5.4	22.7	43.4	38.0	54.6	32.4
1950	10350	15.2	15.8	12.7	11.6	48.5	22.6	66.6	37.7	44.6	29.6
1951	10150	15.5	15.5	14.1	12.5	—	23.0	25.5	38.1	38.2	29.7
	10307 (1951 Census)										
1952	9987	16.0	15.3	13.2	11.3	18.4	22.7	43.0	37.5	43.8	27.6
1953	9923	17.0	15.5	11.8	11.4	5.9	22.4	29.4	37.0	29.6	26.8
1954	9940	17.5	15.2	10.4	11.3	5.7	23.5	34.3	38.1	40.2	25.4
1955	9910	15.4	15.0	11.4	11.7	19.2	23.2	38.5	37.6	26.1	24.9
1946-55 (Average)	10183	16.5	16.6	12.7	11.6	16.4	23.5	40.9	38.6	38.5	31.5
1956	9870	14.2	15.6	11.5	11.7	20.1	23.0	35.0	36.8	28.6	23.8

Note : The Perinatal Mortality Rates prior to 1946 are approximate and are probably minimal

The second set of figures refers to England and Wales.

Cancer Mortality in Llanfyllin Rural District, 1946--55.

When Dr. Milton Jones was Medical Officer of Health, he supplied the cancer death rates for the district for each year over the period 1933-53. The average rate for this period was 1.968 per 1000 population, or 1968 per million, and the figure for 1955 was 2018 per million. In England and Wales in 1955, the rate was 2055 per million (Male 2252, and Female 1873 per million). If comparison is confined to the main cancer period of life, i.e. over 45 years, the number of deaths to be expected in Llanfyllin R.D. over the ten-year period 1946-55 (based on the England and Wales 1955 rate of 5227 per million at ages 45 and over) would be 202.57. This takes into account the increased number of old people in Llanfyllin R.D., and is based on the 1951 census population level. This rate of 5227 per million for 1955 is also applicable to the year 1951, as the Comparative Mortality Indices are the same for both years. The actual figure of deaths for Llanfyllin R.D. was 202 at ages 45 and over, for the years 1946-55. These comparisons might at first sight appear satisfactory and invite no further comment. The totals (less cancer of the lung) shown in Table 1 do however suggest that an analysis of the the deaths according to the site affected might be of value.

As the population of this district is too small to yield a sufficient annual number of cancer deaths for analysis, I have increased it artficially by extending the period under review to ten years. The years chosen were 1946-55 because, apart from being the most recent, they were pivotted on the census year 1951, thereby gaining some stability to help to counteract the weakness inherent in an analysis of small numbers. The main weakness of course is the greater variation to which small numbers are liable but there is also the difficulty that a small population is not as truly representative of all these variations as a large one by reason of differences in age and sex composition, and the lesser diversity of its heriditary characteristics. The 1951 Census helped greatly to dispose of the age and sex variations by showing what adjustments should be made. The heriditary limitations must be accepted and indeed, if environmental differences could be ruled out, any findings from the study might be conceived as reflecting to some degree the effects of these limitations. As heredity and environment are at continual interplay however, and in the case of this disease are possibly closely interwoven, it is more profitable to view the pattern as a whole and record the results, attributing any differences according to the evidence on the subject generally. For example, it is becoming increasingly clear that the pollution of the atmosphere is associated with lung cancer. Similarly, in the case of the main site of cancer mortality namely the Digestive System, there is likely to be found in due course some article of the diet (including water) which is a cancer provocative to these organs.

If a population is subjected to the effects of a noxious agent and other factors (e.g. heredity) are distributed at random, then it is likely that the social classes will be affected in equal numbers. Such is the case in a general way with regard to cancer of all sites. There is a slight tendency to increasing mortality with lowering of social class in males, but none in females and in fact there is a reverse tendency in females over 65 years. In digestive system cancer however, there is a definite social gradient of rising mortality with lowering of the social class, although an apparent paradox exists in that the reverse is the case in regard to cancer of the intestines. This might conceivably be explained if account is taken of the facts that the death rate in both sexes for intestinal cancer surpasses that for stomach cancer at the 65-74 age period, and the average age at death is higher for intestinal than for stomach cancer. This applies particularly in the female sex in the national trends for 1953 and 1954 and can also be seen in Table II relating to local statistics. Assuming an equal distribution of resistance to cancer over the social classes, one could easily imagine an uneven distribution of other factors such as diet and cooking methods and go on to postulate a disproportionate increase in stomach cancer among the lower social classes. A lesser dosage of noxious agent might have a lingering action on the intestine and cause death at a later age, and having a greater field of susceptivity remaining among the higher social classes, it would tend to have more effect on them.

Such a proposition might appear unduly naive for a disease so many-sided and subtle, but it is of suchlike ideas that public health and preventive medicine are built, and upon them can be based studies which may on occasion illumine the dark areas of the medical field.

TABLE 1.

Cancer death rates according to site, 1946-55, Llanfyllin R.D.

International Statistical Classification No.		Rates per million				Proportion per 1000 total cancer deaths (1955 only)			
		Males		Females		Males		Females	
140-159	Total Digestive System	1240	‘1059’	1364	‘839’	600	‘433’	618	‘439’
140	Lip		‘7’		‘1’		‘2’		‘0’
141	Tongue		‘24’	20	‘6’		‘8’	9	‘3’
143-148	Buccal cavity and pharynx	19	‘45’	100	‘19’	9	‘18’	46	‘10’
150	Oesophagus	188	‘70’	100	‘37’	91	‘28’	46	‘22’
151	Stomach	564	‘387’	502	‘277’	274	‘166’	231	‘143’
152-153	Intestine (excluding rectum)	308	‘216’	502	‘257’	154	‘84’	231	‘131’
154	Rectum	130	‘174’	60	‘110’	64	‘66’	28	‘55’
157	Pancreas	19	‘77’	80	‘62’	9	‘38’	38	‘38’
160-165	Total Respiratory System	188	‘563’	60	‘104’	92	‘327’	28	‘65’
161	Larynx	19	‘37’	40	‘8’	9	‘14’	18	‘5’
162-163	Lung, bronchus, pleura and trachea	169	‘514’	20	‘88’	83	‘308’	10	‘57’
170-179	Total Breast and Genital Organs	263	‘166’	421	‘665’	128	‘78’	194	‘362’
170	Breast		‘4’	260	‘355’			120	‘197’
171-174	Uterus			160	‘181,			74	‘90’
177	Prostate	263	‘146’			128	‘69’		
180-181	Total Urinary System	38	‘110’	20	‘51’	18	‘55’	9	‘30’
180	Kidney		‘28’	20	‘18’		‘15’	9	‘10’
181	Bladder	38	‘82’		‘33’	18	‘40’		‘19’
190-191	Skin	38	‘25’		‘20’	18	‘10’		‘11’
194	Thyroid		‘4’	40	‘11,		‘2’	19	‘6’
195, 198, 199	All other and unspecified	181	‘28’	140	‘29’	91	‘14’	65	‘18’
200-205	Lymphatic and haematopoietic tissues	113	‘96’	120	‘69’	58	‘52’	57	‘46’
140-205	Total Cancer	2067	‘2114’	2167	‘1828’	1000		1000	
Total less cancer of lung		1879	‘1551’	2107	‘1724’				

Note; Numbers in brackets refer to England and Wales.

TABLE II.

Cancer Deaths according to age, site and social condition, 1946-55
Llanfyllin R.D.

Site	Male			Female		
	Average age (years)	No. of deaths	Percentage in upper half social classes	Average age (years)	No. of deaths	Percentage in upper half social classes
Stomach	66	30	67.8	67.9	25	64.6
Oesophagus	63	10	65	72.6	5	70
Colon	64.76	17	76.5	72.36	25	66
Rectum	63.5	7	36	71.3	3	66
Pharynx etc.	24	1	(Class IV)	60	5	70
Tongue				72	1	(Class II)
Pancreas	81	1	(Class II)	66	4	87.5
Lung	61.2	9	72	50	1	(Class II)
Larynx	56	1	(Class V)	76	2	75
Breast				64.4	13	65
Uterus				54	8	56
Prostate	75	14	54			
Kidney				71	1	(Class III)
Bladder	70	2	(Class II)			
Skin	80	2	25			
Thyroid				64	2	50
Leukaemia	45 & 76	3	(Classes III) & IV)	62, 74 & 5	4	(Classes II III & IV)
Hodgkin's Disease	54	3	66	53	2	(Class IV)
Others	60.5	10	40	73.5	7	
TOTALS	64.4	110	63	66.8	108	63

Note : Average age at death from all causes for both sexes during same period : 68.38 years.

Cancer of the Stomach. It will be seen from Table I that the local mortality from cancer of the stomach for both sexes is grossly in excess of the figures for England and Wales over a similar period. That this is not a feature peculiar to Llanfyllin R.D. can be seen if the 1954 percentage ratios of the Equivalent Average Death Rate for stomach cancer for ages 35-74 are applied to the rural districts of Wales. In total and in each part, Wales has the highest rates, but the rural districts of Wales are worst of all, being 165% (male) and 174% (female) of the rates for England and Wales. When these increases are made, 638 (387 × 165%) deaths per million (male) and 481 (277 × 174%) deaths per million (female) would be the expected rates, and it will be seen that the Llanfyllin R.D. rates conform to these quite well.

As the number of old people is known to be excessive in these rural districts, due account must be taken of any influence exerted by them on the death rates. The 1951 Census showed that there were 1½% more people over the age of 65 in this district than in the country as a whole, and this increase was distributed fairly equally between the sexes. In the magnified population (10307 at the time of the Census × 10), this would mean about 800 extra males and 750 extra females over 65 years. If these 750 females are then allocated to the 65-74, 75-84 and the over 85 age groups as at the 1951 Census, 67% or 503 would be placed in the first group, 27% or 202 in the second and 6% or 45 in the third group. Applying to these numbers the appropriate death rates (England and Wales, 1954) shown in the following Table, there would be 1.1 deaths above the 13.9 to be expected on the national rate, or 2.1 more if the local death rates are applied, making a total of 15 or 16 deaths against the actual number of 25. It will also be noted that 174% of the expected figure is 24.48

TABLE III.

Cancer of the stomach: sex and age specific death rates per million, 1946-55, Llanfyllin R.D.

	Age groups					
	45-54	55-64	45-64	65-74	75-84	Over 84
Male	816 (318)	1630 (919)	1165	1559 (1981)	4734 (2979)	— (2581)
Female	275 (161)	858 (433)	535	2613 (1074)	4046 (2115)	— (2366)
Actual Number of deaths						
Male	6	9		7	8	—
Female	2	5		11	7	—

Note: The figures in brackets refer to England and Wales 1954 rates.

It is noteworthy that all the rates given in Table III are higher than those of any county borough named in the Registrar-General's fourth quarterly Return for 1956 except for males aged 65-74 where the rate for county boroughs is 2180. These county borough rates refer to the years 1950-54 for the age group 65-74, and to the years 1948-54 for the age group 45-64.

Similarly with regard to the males, the extra 800 can be distributed in the proportion of 554, 209 and 37 to the 65-74, 75-84 and over 85 age groups, and after applying to these numbers the appropriate death rates, there will be a total of 1.8 or 1.9 (on local rates) deaths to be added to the expected figure of 20.596 making a total of about 22.5 deaths against the actual figure of 30. It will also be noted than 165% of the expected figure is 33.18, so that, in the case of males, the excess mortality is about 19% less than in other rural districts. Taking both sexes together at ages over 45 years, the expected number of deaths is 57·3 against the actual total of 55 from this cause. This is based on the figure of 843 deaths per million from stomach cancer in 1955 in England and Wales and includes the 1.7 factor for Rural Wales and the decrease of .05 in the Comparative Mortality Index for cancer of the digestive organs since 1951.

It would appear on this evidence that the excess of deaths is therefore genuine, particularly as the proportion of old people in Llanfyllin R.D is not much different from that in the neighbouring counties or in rural Wales as seen in the following Table, and the increase in the percentage of those over 45 years since the 1931 Census is much the same in these districts and in England and Wales.

TABLE IV.

Percentage of the population over 45 years.

England and Wales, Census 1951	35 1 per cent
Increased percentage since 1931 Census	6 per cent (5·1% male, 6.8% female)
Merionethshire, Montgomeryshire, Radnorshire	37·6 per cent
Increased percentage since 1931 Census	5·1 per cent (3.26% male, 7.25% female)
Llanfyllin R.D., Census 1951	37·6 per cent
England and Wales, 1955	36.6 per cent
Wales (Region II), 1955	38.8 per cent

Note : Region II consists of all the non-industrial counties.

There has been a gradual ageing of the population of England and Wales, but in addition to this, there has been a depopulation in Mid-Wales affecting Montgomeryshire in particular. This has resulted in a fairly steady trend downwards over the past 70-80 years. The exodus seems to have been initiated and maintained by the 15-24 age group, especially females, followed by lessening numbers of both sexes in the later age groups of the working period of life. This has become almost a stable trend in that the depopulation takes away potential family makers and therefore potential old people leaving an almost constant excess in this area of 2-3 per cent aged 45 years and over.

Table III also reveals a suggestion of earlier death in Llanfyllin district from this cause, and at least it can be said that the malevolent force is working at full capacity in the younger age groups. The average age at death is below the average for all deaths in the district by about the same amount as applied to these deaths in England and Wales generally in 1955.

When the deaths are spread over the occupational social classes according to the occupation recorded on the death certificate, it is found that most of the deaths occur in the class to which farmers belong. Furthermore this class consists chiefly of farmers. This implication of a high rate for farmers raises the question of the rate for farmers in the country as a whole. The standardised mortality in 1950 among farmers in England and Wales, although above that for their class for stomach cancer, was however decidedly below the average for the general population. Similarly the mortality for agricultural workers was, if anything, below the average for their class.

This increased mortality among farmers in Llanfyllin R.D. must be either occupational or part of a raised mortality in all the population of the district. Table V shows an expected high percentage of farmers in the area and it will be noted that the total of those engaged in farm work (54.9%) tallies well with the percentage of stomach cancer mortality attributable to farmers and their workers (55.1%). It would not appear that any special proclivity to this disease obtains among the farming community, and this is all the more so when it is realised that there does not exist in the area any occupation carrying a known high rate. The explanation of the disparity between the rates for farmers and agricultural workers might be that some of the latter have given "farmer" as the occupation on the death certificates. Many farm labourers also have a few acres of land attached to their places of residence which they work in the style of a small farmer.

TABLE V

Area	Percentage of Occupied Males as :		A and B
	Farmers (A)	Agricultural workers (B)	
England & Wales	1.87	3.85	5.72
Wales	4.53	3.88	8.41
Denbighshire	6.72	6.8	13.52
Merionethshire	12.0	8.3	20.3
Montgomeryshire	23.2	17.1	40.3
Radnorshire	23.7	17.9	41.6
Machynlleth R.D.	30.0	20.4	50.4
Llanfyllin R.D.	31.7	23.2	54.9
Newtown & Llanidloes R.D.	34.5	21.9	56.4
Forden R.D.	33.8	23.4	57.2
Penllyn R.D. (Merionethshire)	41.0	24.3	65.3
Llanfyllin R.D.			
Percentage Cancer Stomach			
Male	44.8	10.3	55.1
Female	50.0	8.3	58.3
Percentage Cancer Intestine			
Male	47.0	11.8	58.8
Female	28.0	—	28.0
Male & Female	38.0	4.8	42.8
Percentage Cancer Lung			
(Male & Female)	40.0	10.0	50.0

Cancer of the Intestine. As in the case of Stomach cancer, the local figures are in marked excess of those for England and Wales over a similar period. If deaths had been in proportion to those in England and Wales, there would have been 22.42 aged 45 years and over in the district during the ten year period (after allowing for the general decrease in the Comparative Mortality Index since 1951). The actual number of deaths was 41 which is therefore 183% of the national rate. There has been a steady decrease in gastro-intestinal cancer in England and Wales over the past twelve to fifteen years until it is now 83% of the 1938 level. The standardised rates for England and Wales had been building up to a peak in the years 1931-39, but even these 1938 rates were less than those prevailing in Llanfyllin R.D. It cannot therefore be argued that the high Llanfyllin rate is merely a local failure in the national mortality decline. It is more likely to have been above national levels at all times, and to have been thrown perhaps into greater relief recently with the declining mortality elsewhere.

When the increased mortality in Llanfyllin R.D. is analysed by sex, the increases are as follows:

Expected Male Deaths (based on England and Wales rates)	11.49
Actual Male Deaths	17
(= 148%)	
Expected Female Deaths (based on England and Wales rates)	12.8
Actual Female Deaths	25
(=195%)	

Note: Of these extra deaths, only 1.12 (male) and 0.94 (female) could be due to the older age of the population.

The distribution of sex and age specific death rates are shown in Table VI. The heavier death rate is seen to be reflected in all the main age groups, although in the case of the females in the 75-84 age group, it is particularly high and is in fact responsible for the elevation of the average age of deaths from this cause for males and females to a figure above that for gastric cancer.

TABLE VI.

Intestinal Cancer: death rates per million in sex and age groups, 1946-55, Llanfyllin R.D.

	Age groups					
	35-44	45-54	55-64	65-74	75-84	Over 85
Male	134 (43)	286 (117)	724 (367)	1781 (999)	1183 (2219)	— (2811)
Female	— (57)	275 (154)	514 (380)	1900 (851)	6358 (1896)	2777 (2789)
Actual numbers of deaths						
Male	1	2	4	8	2	—
Female	—	2	3	8	11	1

Note : The figures in brackets refer to England and Wales 1954 rates.

In the case of England and Wales (calculated approximately on the 1954-55 rates), the average age at death is a little higher in intestinal cancer than in stomach cancer, but this is by virtue of a male difference as shown in the following Table.

TABLE VII.

England and Wales : Average age at death applying 1954 specific death rates to 1955 specific populations.

	Average age at death	
	Male	Female
Stomach Cancer	66.6	70.3
Intestinal Cancer	69.9	70.3

Note : The mid age of the period is taken as the age of all in it.

The eleven female deaths in the 75-84 age group have no obvious common factor. They are distributed evenly throughout the ten-year period, geographically they are evenly distributed (2 at Llanfair Caereinion, 2 at Llandrinio, 2 at Llangynog and 1 each at Penybont-fawr, Pontrobert, Llanymynech, Pool Quay and Meifod), and their proportions in the social classes are similar to those in the group as a whole. In the absence of any special significance appertaining to this age group, it is possible that the high rate is fortuitous. On the other hand, in 1954, the Equivalent Average Death Rate (35-74 years) for cancer of all sites was highest for Wales (females being 108, England and Wales being taken as 100), which would lead one to suppose that, with a known high ratio for stomach cancer in Welsh rural districts especially among females, an even higher rate might not be entirely unexpected among females with intestinal cancer.

As in the case of stomach cancer, most of the deaths occurred in the classes to which farmers and agricultural workers belong. The standardised mortality for these occupations in the country as a whole in 1950 was higher than the others in these classes and, unlike stomach cancer, these classes had a higher mortality than the average population. Table V shows that the overall percentage of cancer of the intestine in the male agricultural population is proportional to the percentage that that population bears to the total Occupied Males. The same explanation for the disparity between the rates for farmers and agricultural workers in regard to stomach cancer applies also to this cause of death. The female rate attributable to farming occupations is not so convincing however, and yet, knowing the excessive mortality among females generally, it is possibly understated. There were six among the other occupations who could easily have had farming associations stronger than the mere fact of living in a farming community. If this were so, then the percentage would fall into line with that for male farmers. This possibility also applies of course to stomach cancer only not to the same extent.

Cancer of the Lung.

With the known association of this disease with cigarette smoking it is not suprising to find that of the ten deaths from this cause in the ten-year period, only one was a female. This ratio of 1.9 is less than that in urban areas (1:5.8), but in the latter, the influence of a polluted atmosphere might be expected to be more uniform. The rate as a whole conforms with that in "truly rural" areas of Wales. For instance, in 1953, the standardised mortality ratio was only 33 for males and 56 for females in these areas, and as Table I shows, the Llanfyllin male rate is about a third, and the female rate much less than half of the national rates, Table V shows again however, that any apparent excess among farmers and farm labourers is proportional to the excess of these two occupations in the general population of the area.

The deaths occurred rather unevenly during the period, one in 1946, one in 1947, two in 1950 and three each in 1954 and 1955. Their distribution in the district was fairly even, there being two in each of Llanfair C. and Meifod, and one each in Llanwddyn, Carreghofa Llandrinio, Llanfihangel, Llansantffraid and Penybontfawr.

Summary and Conclusions.

The total cancer rate for the Llanfyllin R.D. during the period 1946-55 was less than that in England and Wales but only by the doubtful virtue of the general increase in male lung cancer over the whole country. When the cancer sites are examined individually however, it becomes obvious that this district, in common with the rest of rural Wales, possesses a high mortality rate for gastro-intestinal cancer. It is in fact almost high enough to balance the national increase in lung cancer.

The criticism might be made that inaccurate certification could cause these rates to bulge into one or other of the site compartments or even affect the total comparisons themselves. In favour of this, rural districts twenty years ago had a lower standardised mortality for all cancer than the country as a whole. These low rates do not appear to have been shared by Llanfyllin R.D., where the rate for the period 1933-42 after approximate correction for age and sex was about 100 per million more than the 1938 figure for England and Wales. Certification could have been more accurate in this district or it is even conceivable that the real rate could have been higher still· Whatever be the case, the following statement appears in the Annual Report of the Medical Officer of Health for the year 1938. "It will be seen that cancer continues to take a high toll from amongst the middle aged and older people of the area and the average age at death from cancer is 63 years." With regard to the relative importance of cancer at various sites, my studies have left me with the impression that certification has been reasonably accurate in this respect.

No specific age-group or occupation was involved in the increase and the social variations tended to strike a balance between stomach and intestinal cancer so that the total for both was evenly distributed over all the social classes.

The finding of some factor in the diet common to all cases and accessible to all the population is not easy. Knowing that the Silurian formations of Mid-Wales posess a significant degree of radio activity, especially in certain shale beds, it seemed pertinent as a first step to test the drinking waters for possible accumulations of dissolved radioactive material, and it was with some slight trepidation that all the public supplies in the district were so tested. No such fears were realised however, and the Geological Survey, to whom we are indebted for these analyses, reported that the samples were within the limits to be expected of most natural waters. Samples of the waters used by some of the cancer cases were then examined with like results.

While these findings are of material comfort in themselves, they also serve to direct our enquiries to other possible factors, and this we hope to do in due course as time and availability of staff permit.

SECTION "C."

Sanitary Circumstances of the Area.

Water Supplies.

(i) **Quality.**

To report upon the quality of the water supplies in this district it it necessary to distinguish between public supplies and supplies drawn from privately owned sources.

(a) **Public supplies operated by the Council.**

The results of samples of water taken from the various public supplies and examined bacteriologically during 1955 and 1956 are given below. On the whole, the quality of the various piped supplies operated by the Council is good and in considering the following table it should be borne in mind that more attention is given to those supplies which occasionally give unsatisfactory results than to those which consistently give good results. It will be observed that while the number of samples examined during 1956 considerably exceeds the corresponding figure for 1955, there has been a decrease in the number of unsatisfactory samples.

Results of Bacteriological Examination of Water Samples from Works Operated by the Council.

Untreated Supplies.

	Highly Satis.	Satisfactory	Suspicious	Unsatis.	Total
1955	62	10	1	14	87
1956	98	4	8	12	122
	160	14	9	26	209

Treated Supplies.

	Highly Satis.	Satisfactory	Suspicious	Unsatis.	Total
1955	68	1	0	5	74
1956	61	1	1	2	65
	129	2	1	7	139

In addition to the 187 samples examined bacteriologically during the year, 22 samples were submitted to the Public Analyst for chemical analysis. Of these 1 was regarded as suspicious and the remainder were found satisfactory.

(b) Private Supplies.

Requests are frequently received for samples of privately owned supplies (mostly shallow wells) to be examined. It has not always been possible to comply with the requests received but nevertheless, in response to such requests, and in other cases where the Public Health Inspectors considered it advisable to do so, a total of 67 samples of private water were bacteriologically examined during the year and gave the following results.

Number of samples found highly satisfactory—43.
,, ,, satisfactory—6.
,, ,, suspicious—12.
,, ,, unsatisfactory—24.
85

These results are the best indication available of the quality of the private supplies in the district but they may tend to indicate better conditions than actually prevail. Many of the samples have been taken after protective works had been carried out at the various sources, in preparation for a grant-aided farm water scheme or the erection of a new house. In fact, I would expect a higher proportion of private supplies to be unsatisfactory, than is indicated by these results.

(ii) Quantity.

The adequacy of the supplies varies considerably between one parish and another, and in no parish is a piped supply of water available to every house. Indeed, the distribution of the houses and, in some cases, their elevation makes it unlikely that they can be supplied from public mains in the foreseeable future. I give below a brief description of the circumstances in various localities at the end of 1956.

(a) Parish of Llanfair Caereinion.

This Parish has the highest population of any in the rural district and contains more houses supplied by water, from the public mains than any other parish. Nevertheless, less than half of the houses in the parish are within reach of watermains. Since 1954, water has been extracted from the River Banwy and an ample supply of wholesome water is assured. The problem which remains, however, is one of distribution.

(b) Parish of Llanfechain.

A new scheme of supply for the village of Llanfechain came into operation during 1953. The source is a well in valley gravel from which, after chlorination, water is pumped to a service reservoir. There is no doubt that the works have greatly improved living conditions in the village and have made possible the erection of a fair sized housing estate and school. A number of agricultural properties are supplied and while the amount of water available is comparatively small, it is unlikely that there will be any shortage of supplies for many years within the area of the distribution system.

(c) Parishes of Llandrinio, Llandysilio, Llansantffraid Deytheur and Llansantffraid Pool.

These parishes are supplied from a spring at Winllan, Llansantffraid, augmented by pumping water from a well at Parson's Bridge in the Parish of Llandysilio. This source is referred to in my predecessor's report for the year 1954 which expresses the belief that the yield of the Parson's Bridge well will be sufficient to meet the demands of the area for many years. Unfortuntely, later experience has shown that the well cannot be relied upon during periods of drought and, while no rationing of the supply has been necessary up to date, it is now evident that a new source is necessary to meet the requirements of these parishes in the immediate future.

(d) Parish of Carreghofa.

Part of this Parish is supplied with water by Oswestry R.D.C. but the distribution system is inadequate and new works of water supply are urgently needed to meet the needs of the parish as a whole, including two housing estates owned by the Council.

(e) Parishes of Garthbeibio and Llangadfan.

These parishes contain the villages of Foel and Llangadfan, both of which are supplied from a source at the Foel. Further development of these villages cannot take place without endangering the adequacy of the supply.

(f) Parish of Llanfihangel.

The hamlet of Llanfihangel is a comparatively small one of less than a dozen houses. It has no public piped supply and most of the houses are dependent upon a privately owned supply which is inadequate for the needs of the hamlet. Better provision for the hamlet is needed, but owing to the elevation of the locality, I understand that it is difficult to provide it with a supply of water at reasonable expense, but I am glad to know that the Council are considering a pumping scheme for the area.

(g) Village of Pontrobert.

The village has been for many years badly in need of a piped supply of water and I am glad to know that there is every prospect of a satisfactory scheme in the near future, following the favourable outcome to a public inquiry early in the year.

(h) Parish of Meifod.

The village of Meifod is adequately supplied and the distribution system was extended during 1954. Nevertheless, much of the parish has no public supply.

(i) Parish of Pennant.

The present needs of the village of Penybontfawr are catered for by the existing scheme, but additional houses cannot safely be erected nor a sewerage scheme embarked upon until the supply is augmented.

I understand that the Council are considering augmenting the supply from the Liverpool Corporation aqueduct which passes close to the village.

(j) Generally.

Much of the district remains without a public piped supply of water and because of the sparsely populated nature of the district it will no doubt require very considerable expenditure to provide a comprehensive distribution system.

At least one source, i.e. at Llanfair, is capable of further development but it seems quite clear that an additional source or sources will have to be found before the district as a whole can be adequately supplied.

(iii) Plumbo-Solvent Action.

I would not expect any of the piped supplies controlled by the Council to have a marked aggressive action on metals. In two cases, the water is passed through a contact chamber of limestone chippings to counteract any acidity in the water, and the pH value of the water extracted from the River Banwy at Llanfair is also adjusted.

(iv) Action in respect of Contamination.

No specific action was taken in respect of any form of contamination other than proper supervision of the various sources and the routine chlorination of supplies where necessary.

(v) Dwelling Houses supplied from Public Mains.

The following table gives the number of dwelling houses and the estimated population supplied from public water mains directly into the houses or by means of standpipes.

Parish.	Supply laid on to dwellings or curtilage.		Supply by Standpipe.	
	Number of Dwellings	Approx. Population	Number of Dwellings	Approx. Population
	Works controlled by Council.			
Meifod ...	65	195	30	90
Llanerfyl ...	26	78	15	45
Llansantffraid Pool	132	413	17	53
Pennant ...	35	105	20	60
Llangynog ...	32	96	50	150
Llangadfan ...	25	60	15	36
Llanfair Caereinion ...	197	591	34	102
Llanfihangel including Dolanog Village ..	16	48	—	—
Garthbeibio ...	2	6	1	3
Llangyniew ...	—	—	—	—
Hirnant ...	—	—	—	—
Llandysilio ...	67	230	—	—
Llandrinio ...	66	231	—	—
Llanfechain ...	68	223	—	—
Llansantffraid Deytheur	30	99	—	—
Guilsfield (Without) ...	17	51	—	—
Llanrhaeadr ...	68	204	4	12
Total	846	2630	186	551
	Works not controlled by Council.			
Llanfihangel ...	3	9	—	—
Llanwddyn ...	102	306	—	—
Carreghofa ...	47	141	2	7
Hirnant ...	2	8	—	—
Llangynog ...	4	12	—	—
Llanrhaeadr ...	2	9	—	—
Total	160	482	2	7
Grand Total	1006	3112	188	558

Note: The percentage of the population served by public mains in 1956 was 4.5% greater than in 1955, nevertheless it is still only 37.1%.

Drainage and Sewerage.

The need for sewering the various villages in the District has been pointed out in previous Annual Reports of the Council's Medical Officer. It is pleasing to be able to report some progress.

In each of the last three years one village sewerage scheme has been constructed. The first in Llanrhaeadr (completed in 1954), the the second in Llansantffraid (completed in 1955) and the third, in Llanfair Caereinion, was completed during the year under review. These works have greatly improved the sanitary condition of the villages and have made possible improvements to many houses in the villages, which had previously been without bathrooms and drainage systems.

Sewerage schemes are urgently required in several other villages, and I am glad to know that the Council are endeavouring to meet the need.

Closet Accommodation.

In this District closet accommodation does not vary substantially from one year to another, except when new village sewerage schemes are brought into operation. The numbers of pail closets and privies converted into water closets during the past three years are as follows:

1954—31
1955—73
1956—97

Public Cleansing.

There has been little change in arrangements for house refuse collection during the year. Most of the villages and hamlets in the District are now scavenged by the Council either through their own contractors or by arrangements with an adjoining Authority.

Although the present arrangements are fairly comprehensive in that they cater for most groups of houses, there still remains a comparatively large number of houses so situated that it is almost impossible to extend the service to them. The cost of scavenging during the financial year ended March 1956 was £2,175. It remains a matter for the Council to consider whether an increased expenditure can be justified and some of the more remotely situated houses included in the service.

Sanitary Inspections.

During the year the Sanitary Inspectors carried out the following inspections :—

Public Health	108
Water Supplies	120
Drainage	226
Complaints	17
Factories	13
Infectious Disease	22
Housing Inspections	79
Rural Housing Survey	183

As a result of the above inspections the following notices were served, with the result indicated.

	Informal	Statutory	Complied with
Public Health Act 1936	25	4	14
Food and Drugs Act 1938	—	—	—

Shops and Offices.

It was not necessary to take any action during the year.

Camping Sites.

There are no licensed camping sites in the District.

Smoke Abatement.

No action necessary during the year. Large volumes of polluted atmosphere cover the district when the wind is between North and East. The wind direction at Llanwddyn was North to East on 100 days at an average strength of 2.61 during the year. The average wind strength for the rest of the year was 2.64. This atmospheric pollution presumably comes from the large industrial areas situated to the North East of the area. The degree of pollution is not known as we do not possess the necessary apparatus for detecting it. It is however strong enough on occasion to be detected nasally.

Swimming Baths and Pools.

There are no swimming baths or pools in the District.

Eradication of Bed Bugs.

No action was necessary during the year.

Section "D"

Factories Acts 1937 and 1948.

PART 1 OF THE ACT

1.—**Inspections** for purposes of provisions as to health (including inspections made by Public Health Inspectors)

Premises (1)	Number on Register (2)	Number of		
		Inspections (3)	Written notices (4)	Occupier prosecuted (5)
(i) Factories in which Sections 1, 2, 3, 4 and 6 are to be enforced by Local Authorities	7	1		
(ii) Factories not included in (i) in which Section 7 is enforced by the Local Authority ...., ...	33	9		
(iii) Other Premises in which Section 7 is enforced by the Local Authority (excluding out-workers premises)....				
TOTAL	40	10		

2.—The inspections made did not disclose any defects.

Outworkers

There are no outworkers in the District and therefore no statistics relating to Part VIII of the Act are included in this report.

Section "E"

Food

(1) There are in the District the following numbers of premises where food is prepared, sold or stored :—

Bakehouses -	7
Butcher's Shops -	9
Fried Fish and Chip Shops	3
General Provision Stores	52
Greengrocer's Shops	1
Cafes -	5
Licensed Premises -	29
Ice Cream manufactory	1
Cheese manufactory -	1
Confectioner's Shop -	3

(2) Section 16 of the Food and Drugs Act 1955 requires the registration of all premises used for the manufacture or sale of ice cream or the preparation or manufacture of sausages or potted, pressed, pickled or preserved food intended for sale. The following numbers of premises are so registered :—

For the manufacture of ice cream—1
For the sale of ice cream—29
For the manufacture of sausages—3

There are no dairies registered by this Council under the Milk and Dairies Regulations 1949. One producer of T.T. milk within the district holds a Dealers Licence and four dealers with premises outside the District hold supplementary licences from the Council authorising them to sell T.T. and Pasteurised Milk within the district.

(3) The number of inspections of registered food premises during the year was 25. In general the inspections disclosed satisfactory conditions.

(4) Educational activity in relation to food hygiene was confined to advice and discussion during routine inspection of food premises.

(5) Two slaughterhouses are licensed and meat inspection was carried out at these premises during the year, An application was received during the year for the licensing of a further private slaughterhouse but this was not granted. Difficulties arose at one of the slaughterhouses as a result of which the licence for it was restricted to a period of three months.

(6) All meat found to be unfit for human consumption is dyed green. It remains in the possession of the owner and after boiling, is used for animal feeding.

(7) Tinned foodstuffs, consisting of cooked hams, luncheon meat and peaches and amounting to 55lbs. were found to be unfit for human consumption. These were disposed of on the Councils refuse tip.

(8) Ice Cream is manufactured at one factory only and, having regard to the Ice Cream (Heat Treatment etc.) Regulations 1947-52 I consider that the processes are carried out satisfactorily.

(9) Structural alterations were carried out at 3 premises in order to comply with the Food Hygiene Regulations 1955-56 and methods of food handling were improved in several premises as a result of informal action.

The table below gives details of carcases inspected and condemned in whole or in part, during the year.

Carcases Inspected and Condemned

	Cattle excluding Cows	Cows	Calves	Sheep and Lambs	Pigs
Number killed	359	2	7	1428	360
Number inspected	359	2	7	1428	360
ALL DISEASES EXCEPT TUBERCULOSIS					
Whole carcases condemned	—	1	2	1	4
Carcases of which some part or organ were condemned	66	—	—	17	4
% of the number inspected affected with disease other than tuberculosis	18.4%		28.6%	1.3%	2.2%
TUBERCULOSIS ONLY					
Whole carcases condemned	—	—	—	—	—
Carcases of which some part or organ were condemned	1		—	—	5
% of the number inspected affected with tuberculosis	.27%		—	—	1.4%

CONDEMNATIONS

1 part forequarter Beef
12 Bovine Livers
52 parts Bovine Liver
2 Bovine Lungs
2 Sheep carcases
1 Part Sheep forequarter
3 Sheep Plucks
2 Sheep Livers
7 parts Sheep Livers
1 Sheep Head
1 Sheep gut
3 Pig Carcases
4 Sows Head
2 Pigs Heads
1 Pig Pluck
3 Pig Livers
2 Pig Kidney
2 Pig Hocks
2 Calf carcases

Cysticercus Bovis

No evidence of Cysticercus Bovis was found during the year.

Section "F."

Infectious Disease Control.

There was a total of 50 notifications during the year, 33 of them relating to whooping cough and pneumonia. There were no deaths in seven of the eight diseases involved, but in the case of pneumonia this was not the case as described below.

The following table gives a summary of the cases.

Tuberculosis			
(a) Pulmonary	4 cases	2 Male	aged 43 and 63
		2 Female	aged 14 and 38
(b) Other forms	4 cases	3 Male	aged 19, 25 and 74
		1 Female	aged 15 years
Puerperal Pyrexia	1 case	Female	aged 29 years
Erysipelas	1 case	Male	aged 53 years
Scarlet Fever	4 cases	3 Male	aged 5, 5 and 7
		1 Female	aged 3 years
Food Poisoning	1 case	Female	aged 2 years
Pneumonia	15 cases	8 Male	
		7 Female	
Whooping Cough	18 cases	8 Male	
		10 Female	
Measles	2 cases	Male	aged 10 years
		1 Female	
TOTAL	50 cases	26 Male	24 Female

Food Poisoning. The case of food poisoning which was due to Salmonella Typhimurium is of interest. It occurred in a girl of 2 years who had been notified as a case of whooping cough three weeks earlier. Much of the work usually involved in cases of this kind had been done already 3 months before due to the fact that the child's father had been notified as a case of poliomyelitis (subsequently cancelled). As the condition from which he was eventually shown to be suffering had possible rodent associations the occurrence of a case of salmonellosis in his daughter caused us to concentrate on this aspect of the case to the extent of having a mouse caught at the house and examined at the laboratory. All our findings were negative however and the source of infection was not found, but there were no further cases.

Dysentry. A child carrier of the sonne type of Dysentry was permitted to return home from hospital and he and his family were kept under surveillance until the carrier condition had ceased to exist.

Tuberculosis, The number of Tuberculosis notifications though not unduly large, attracted attention on account of the peculiar grouping of three of them both in time and locality. These and another case in December 1955 were investigated in detail, but no definite connection could be established between all of them although there appeared to be some chance of spread of the infection in two different couples.

The measures taken to prevent further cases were successful and included the radiological examination of a large number of contacts, followed by B.C.G. vaccination in some cases. A disturbing feature was that two were girls aged 14 years. During the year two other teenage cases occurred in the non-pulmonary group, one a girl of 15, and the other a boy of 19 years. As with poliomyelitis there may not be many cases in an area, but when they do occur, they can have devastating results. Preventive vaccination of at least the susceptible age groups is the answer to the problem.

Pneumonia. All but two of these cases occurred in the first half of the year. There were 5 in Meifod, 3 in Llanfair Caereinion, 2 in Llangyniew, 2 in Llangadfan and 1 in each of Llanfechain, Brithdir and Maesygroes. Apart from a boy aged 10 years the average age of the cases was 51 years.

There were 2 female deaths from pneumonia as recorded in section A, one aged 89 included in the above notifications, the other aged 71 not having been notified (death was in hospital). One of the above male notifications aged 84 died 5 weeks later and is recorded in section A under other heart disease. It is of interest that another of the female cases aged 58 was notified 3 weeks after the death in the same house of a man recorded in Section A under Other Heart Disease.

Whooping Cough. A small outbreak of whooping occurred in the last quarter and apart from 2 cases at Llanymynech and 1 each at Llansantffraid and Llanfechain, the other 14 all belonged to Llanwddyn. The average age of the cases was 3.6 years and details are as follows:

	M.	F.	Total
Under 1 year		2	2
1—2 ,,		3	3
2—3 ,,		1	1
3—4 ,,		2	2
4—5 ,,	2	1	3
Total under 5 years	2	9	11

	M.	F.	Total
5—6 ,,	4		4
6—7 ,,	1		1
7—8 ,,		1	1
8—9 ,,			
9—10 ,,	1		1
Total 6—10	6	1	7
Total Cases	8	10	18

National Assistance Act, 1948. Action was contemplated under Section 47 of the act in regard to an old person in need of care but in the end it was not found necessary to take legal action.